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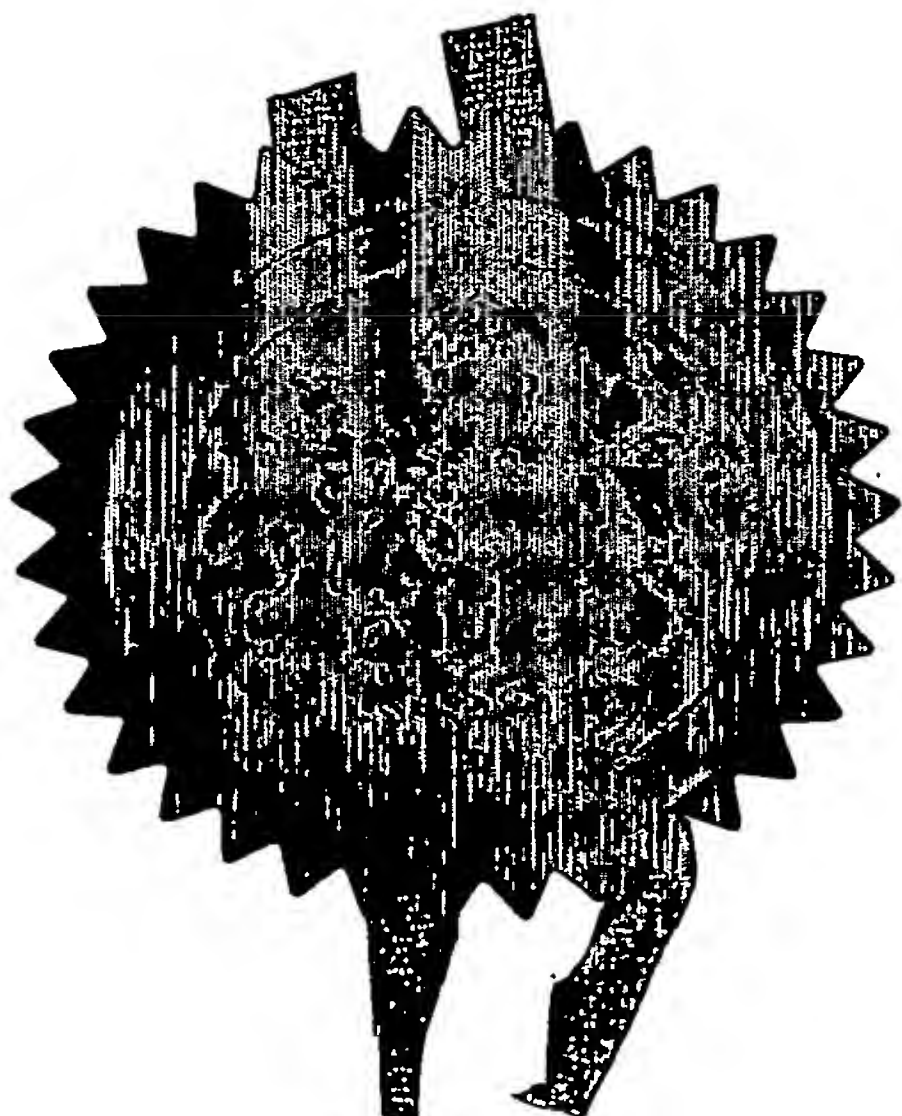
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leben

Dated 25 November 2004

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19 OCT 2004

Request for grant of a patent

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Cardiff Road
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1. Your reference

2. Patent application number

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19 OCT 2004

0423121.3

19OCT04 E934443-1 001554

F01/7700 0.00-0423121.3 ACCOUNT CHA

3. Full name, address and postcode of the or of each applicant (underline all surnames)

TYCO ELECTRONICS RAYCHEM NV
Diestsesteenweg 692
B-3010 Kessel-Lo
Belgium

Patents ADP number (if you know it)

7954407001

If the applicant is a corporate body, give the country/state of its incorporation

Belgium

4. Title of the invention COOLING MEANS FOR A CASING

5. Name of your agent (if you have one)
"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Anthony William JAY
TYCO ELECTRONICS UK LTD.
European Patent Department
Faraday Road, Dorcan, Swindon
Wiltshire, SN3 5HH,
United Kingdom.

Patents ADP number (if you know it)

8459554001

07891674001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7.. If this application is divided or otherwise derived from an earlier UK application give the number and the filing date of the earlier application

Priority application number
(if you know it)

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request?

YES

(Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
- c) any named applicant is a corporate body.

See note (d))

Patents Form 1/77

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Continuation sheets of this form

Description

3

Claims(s)

Abstract

Drawing(s)

1

ONLY

USA

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

YES

Request for substantive examination (Patents Form 10/77)

Any other documents (please specify)

FEE SHEET

11. I/We request the grant of a patent on the basis of this application.

Signature

Date

19 October 2004

12. Name and daytime telephone number of person to contact in the United Kingdom

Tony Jay

01793 572095

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This application adds to our existing UK Patent Application 0326850.5 (the entire disclosure of which is incorporated herein by reference) the following matters, including reference to the attached drawing Figures 5A and 5B.

Referring to Figure 5A it will be seen that on the interior surface 36 of the wall 35 are a series of downwardly depending spaced ribs 51 which are positioned to be offset with respect to the ribs 50. It will be noted that opposing exterior sidewalls 52,53 of the exterior and interior ribs 50, 51 respectively are substantially co-linear. The ribs 51 are housed within a cover tray 54, which is open at both ends to allow heated air A to flow through the channel it creates around the ribs 51.

Alternatively, as shown in Figure 5B, the cover tray 54 (with or without the ribs 51) may have closed ends together with apertures 56 in its innermost wall 54' for entry and exit of the heated air (A) circulating within the casing. Propulsion units, preferably fan units 57, may conveniently, and preferably removably, be provided, for example by snap-fitting into one of the apertures 56, for assisting the flow of the heated air through the cover tray 54 and thus advantageously enhancing the efficiency of the heat exchange. A power cable for the fan unit 57 may enter the tray 54 through a suitable feedthrough 58, preferably having a heat-shrink seal of the kind known *per se*.

1. A casing for containing apparatus which in use generates heat, the casing including a heat exchanger arranged to act as a removable wall (preferably a lid) of the casing, and fluid directing means arranged to be on the exterior of the said removable wall for directing a heat transfer fluid in thermal contact with the said wall in use, such that heat generated in the

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interior of the casing is transferred to the heat transfer fluid by conduction through the material of the said wall.

2. A casing as claimed in claim 1, in which the heat transfer fluid is air and in which air inlet and outlet pipes are provided to channel air to and from a heat transfer chamber incorporating the fluid directing means
3. A casing as claimed in Claim 2, in which there are provided means for preventing water from entering the pipes.
4. A casing as claimed in Claim 3, in which the ends of the pipes remote from the heat transfer chamber terminate with an air orifice which is orientated to point substantially downwards in use.
5. A casing as claimed in any of Claims 2 to 4, in which the inlet/outlet pipes are arranged so that, in use, air enters/exits the pipes at a point lower than that at which it enters/exits the heat transfer chamber.
6. A casing as claimed in any preceding claim, further comprising means for driving the heat transfer fluid to flow through the fluid directing means.
7. A casing as claimed in any preceding claim, in which the wall carries, on its surface remote from the said fluid directing means, a channel for circulation of heated air within the casing in use and the channel includes at least one propulsion means (preferably a fan unit) for assisting the circulation of the air through the said channel.

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8. A casing according to claim 7, wherein the propulsion means is a fan unit removably mounted in an aperture in the wall of the said channel which is innermost within the casing in use.
9. A casing as claimed in any preceding claim, in which the fluid directing means are defined at least in part by a plurality of upstanding ribs projecting from the exterior face of the wall.
10. A casing as claimed in Claim 9, in which the interior face of the wall has a plurality of upstanding ribs offset with respect to the ribs on the exterior face.
11. A heat exchanger as claimed in Claim 10, in which the opposing faces of the exterior and interior ribs are substantially co-linear.
12. A casing for housing apparatus which in use generates heat, the casing having a heat exchanger as claimed in any preceding claim.

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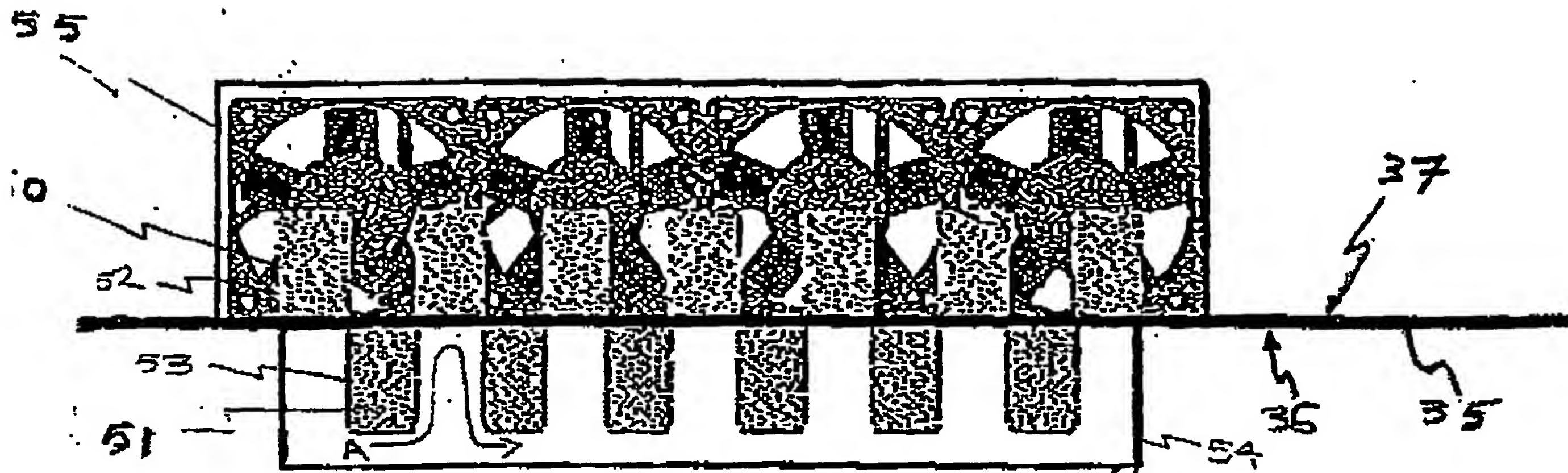
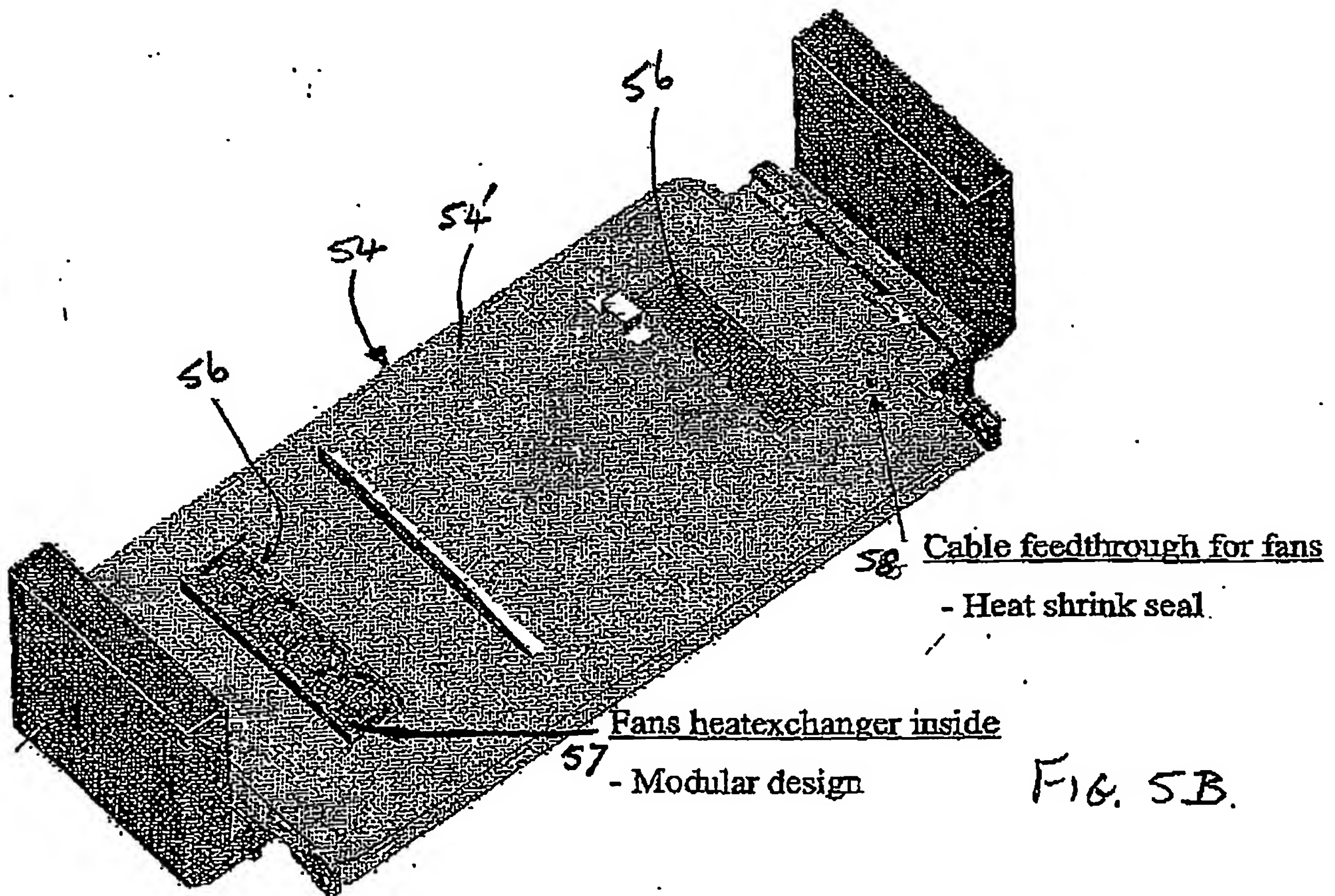


Figure 5A



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